

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 09-007538
(43)Date of publication of application : 10.01.1997

(51)Int.Cl. H01J 37/305
H01L 21/027

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(54) CHARGED BEAM DRAWING DEVICE

(57)Abstract:

PURPOSE: To reduce coulomb effect to form a fine charged beam image by a high electric current, by dividing a charged beam, emitted from an electron gun, into plural charged beam groups.
CONSTITUTION: An electron, emitted from the crossover 11 of an electron gun, becomes a parallel beam by the action of an irradiation lens 14 to be incident into an Einzel lens 15 constituting a multi-charged beam optical system. The lens 15 has plural circular openings arranged in a matrix state, to divide an incident electron beam into plural electron beams. Consequently, the electric current values of the respective electron beam are made small to reduce Coulomb effect and the fading of the electron beam. The electron beam, passed the lens 15, passes a blanking aperture 17 to receive imaging action by an Einzel lens 19, and acceleration action by a rear stage acceleration electrode 20. Then, the electron beam passes an atmospheric takeout part 21 to form the image of the original crossover 11 onto a specimen 22 such as a wafer or a mask.

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[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's
decision of rejection]

[Date of extinction of right]

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